

SEQUENCE LISTING

<110> Chiron Corporation

<120> RANDOM TRANSPOSON INSERTION IN STAPHYLOCOCCUS AUREUS AND USE THEREOF TO IDENTIFY ESSENTIAL GENES

<130> 002441.00063

<140> PCT/US 03/25879

<141> 2003-08-20

<150> US 60/404,406

<151> 2002-08-20

<160> 13

<170> PatentIn version 3.1

<210> 1

<211> 31

<212> DNA

<213> artificial sequence

<220>

<223> primer Cm194-HindF

<400> 1

tatataagct tgttacagta atattgactt t

31

<210> 2

<211> 31

<212> DNA

<213> artificial sequence

<220>

<223> primer Cm194-KpnR

<400> 2

taacgggtac cgttagtgac attagaaaac c

31

<210> 3

<211> 30

<212> DNA

<213> artificial sequence

<220>

<223> primer Erm917-HindF

<400> 3

aaataagctt tagaagcaaa cttaagagtg

30

<210> 4

<211> 30

<212> DNA

<213> artificial sequence

<220>

<223> primer Erm917-KpnR

<400> 4

cggtcgttat ggtaccattc aaatttatcc 30

<210> 5
<211> 20
<212> DNA
<213> artificial sequence

<220>
<223> primer TNErm-1R

<400> 5
ctgtttcaaa acagtagatg 20

<210> 6
<211> 19
<212> DNA
<213> artificial sequence

<220>
<223> primer TNCm-1R2

<400> 6
gataggccta atgactggc 19

<210> 7
<211> 29
<212> DNA
<213> artificial sequence

<220>
<223> primer arb-8

<220>
<221> misc_feature
<222> (1)..(29)
<223> n = g, a, t, or c

<400> 7
ggccacgcgt cgactagtagc nnnngatat 29

<210> 8
<211> 22
<212> DNA
<213> artificial sequence

<220>
<223> primer TNErm-2R

<400> 8
caacatgacg aatccctcct tc 22

<210> 9
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer TNCm-2R2

<400> 9
gtcggttttc taatgtcact aacg

24

<210> 10
<211> 20
<212> DNA
<213> artificial sequence

<220>
<223> primer arb-tail

<400> 10
ggccacgcgt cgactagtac

20

<210> 11
<211> 2470
<212> DNA
<213> artificial sequence

<220>
<223> plasmid pMOD

<400> 11 tcgcgcgttt cggtgatgac ggtgaaaacc tctgacacat gcagctcccg gagacgggtca	60
cagcttgtct gtaagcggat gccgggagca gacaagcccg tcagggcgcg tcagcgggtg	120
ttggcgggtg tcggggctgg cttaactatg cggcatcaga gcagattgta ctgagagtgc	180
accatatgcy gtgtgaaata ccgcacagat gcgtaaggag aaaataccgc atcaggcgcc	240
attcgccatt caggctgcgc aactgttggg aaggcgatc ggtgcgggcc tcttcgctat	300
tacgccagct gtctcttata cacatctcaa ccatcatcga tgaattcgag ctcggtaccc	360
ggggatcctc tagagtcgac ctgcaggcat gcaagcttca gggttgagat gtgtataaga	420
gacagctgca ttaatgaatc ggccaacgcg cggggagagg cggtttgctg attgggcgct	480
cttccgcttc ctcgctcact gactcgtgc gctcggctcgt tcggctgcgg cgagcgggtat	540
cagctcactc aaaggcggtg atacggttat ccacagaatc aggggataac gcaggaaaga	600
acatgtgagc aaaaggccag caaaaggcca ggaaccgtaa aaaggccgcg ttgctggcgt	660
ttttccatag gctccgcccc cctgacgagc atcacaaaaa tcgacgctca agtcagaggt	720
ggcgaaaccg gacaggacta taaagatacc aggcgtttcc ccctggaagc tccctcgtgc	780
gctctcctgt tccgaccctg ccgcttaccg gatacctgtc cgcctttctc ccttcgggaa	840
gcgtggcgct ttctcatagc tcacgctgta ggtatctcag ttcggtgtag gtcgttcgct	900
ccaagctggg ctgtgtgcac gaaccccccg ttcagcccga ccgctgcgcc ttatccggta	960
actatcgtct tgagtccaac ccggtgaagac acgacttatc gccactggca gcagccactg	1020
gtaacaggat tagcagagcg aggtatgtag gcggtgctac agagttcttg aagtgggtggc	1080
ctaactacgg ctacactaga aggacagtat ttggtatctg cgctctgctg aagccagtta	1140

ccttcgga	aaagattggt	agctcttgat	ccggcaaaca	aaccaccgct	ggtagcgg	1200
gtttttt	ttgcaagcag	cagattacgc	gcagaaaaaa	aggatctcaa	gaagatcctt	1260
tgatctttt	tacggggtct	gacgctcagt	ggaacgaaaa	ctcacgttaa	gggattttgg	1320
tcatgagatt	atcaaaaagg	atcttcacct	agatcctttt	aaattaaaaa	tgaagtttta	1380
aatcaatcta	aagtatatat	gagtaaactt	ggcttgacag	ttaccaatgc	ttaatcagtg	1440
aggcacctat	ctcagcgatc	tgtctatttc	gttcatccat	agttgcctga	ctccccgtcg	1500
tgtagataac	tacgatacgg	gagggcttac	catctggccc	cagtgtctga	atgataccgc	1560
gagaccacg	ctcaccggct	ccagatttat	cagcaataaa	ccagccagcc	ggaagggccg	1620
agcgcagaag	tggtcctgca	actttatccg	cctccatcca	gtctattaat	tgttgccggg	1680
aagctagagt	aagtagttcg	ccagttaata	gtttgcgcaa	cgttgttgcc	attgctacag	1740
gcacgtggg	gtcacgctcg	tcgtttggta	tggcttcatt	cagctccggt	tcccaacgat	1800
caaggcgagt	tacatgatcc	cccatgttgt	gcaaaaaagc	ggtagctcc	ttcggtcctc	1860
cgatcgttgt	cagaagtaag	ttggccgcag	tggtatcact	catgggtatg	gcagcactgc	1920
ataattctct	tactgtcatg	ccatccgtaa	gatgcttttc	tgtgactggg	gagtactcaa	1980
ccaagtcatt	ctgagaatag	tgtatgcggc	gaccgagttg	ctcttgccc	gcgtcaatac	2040
gggataatac	cgcgccacat	agcagaactt	taaaagtgtc	catcattgga	aaacgttctt	2100
cggggcgaaa	actctcaagg	atcttaccgc	tggtgagatc	cagttcgatg	taaccactc	2160
gtgcacccaa	ctgatcttca	gcacctttta	ctttcaccag	cgtttctggg	tgagcaaaaa	2220
caggaaggca	aaatgccgca	aaaaagggaa	taagggcgac	acggaaatgt	tgaatactca	2280
tactcttcct	ttttcaatat	tattgaagca	tttatcaggg	ttattgtctc	atgagcggat	2340
acatatttga	atgtatttag	aaaaataaac	aaataggggt	tccgcgcaca	tttccccgaa	2400
aagtgccacc	tgacgtctaa	gaaaccatta	ttatcatgac	attaacctat	aaaaataggc	2460
gtatcacgag						2470

<210> 12
 <211> 3685
 <212> DNA
 <213> artificial

<220>
 <223> plasmid pMOD (Erm1)

<400>	12			
tcgcgcgttt	cggtgatgac	ggtagaaaacc tctgacacat gcagctccc	gagacgggtca	60
cagcttggtct	gtaagcggat	gccggggagca gacaagccc	tcagggcgcg tcagcgggtg	120
ttggcgggtg	tcggggctgg	cttaactatg cggcatcaga	gcagattgta ctgagagtgc	180
accatattg	gtgtgaaata	ccgcacagat gcgtaaggag	aaaataccgc atcaggcgcc	240

attcgccatt caggctgcg c aactggtggg aagggcgatc ggtgcgggcc tcttcgctat	300
tacgccagct gtctcttata cacatctcaa ccatcatcga tgaattcgag ctcggtaccg	360
taccattcaa atttatcctt attgtacaaa ataacagcga aattttttaa tctattcctt	420
atcgatacaa attccccgta ggcgctaggg acctcttttag ctctttggaa gctgtcagta	480
gtatacctaa taatttatct acattccctt tagtaacgtg taactttcca aatttacaaa	540
agcgactcat agaattatct cctcccgtta aataatagat aactattaaa aatagacaat	600
acttgctcat aagtaacggt acttaaattg tttactttgg cgtgtttcat tgcttgtaaa	660
actgattttt agtaaacagt tgacgatatt ctcgattgac ccattttgaa acaaagtacg	720
tatatagctt ccaatattta tctggaacat ctgtggtatg gcgggtaagt tttattaaga	780
cactgtttac ttttggttta ggatgaaagc attccgctgg cagcttaagc aattgctgaa	840
tcgagacttg agtggtcaag agcaacccta gtgttcggtg aatatccaag gtacgcttgt	900
agaatccttc ttcaacaatc agatagatgt cagacgcagc gctttcaaaa accacttttt	960
taataatttg tgtgcttaaa tggtaaggaa tattcccaac aattttatac ctctgtttgt	1020
tagggaattg aaactgtaga atatcttggt gaattaaagt gacacgaatg ttcagtttta	1080
atttttctga cgataagttg aatagatgac tgtctaattc aatagacgtt acctgtttac	1140
ttattttagc cagtttcgtc gttaaagtc ctttacctgt tccaatttcg taaacggtat	1200
cggtttcttt taaattcaat tgttttatta tttggttgag taccttttca ttcgttaaaa	1260
agttttgaga atattttata tttttgttca tgtaatcact cctgaagtga tacatctata	1320
aataaataca gaagttaaag gatttggttg taattttagt tatctgttta aaaagtcata	1380
agattagtca ctggtaggaa ttaatctaaa cgtatttatc tgcgtaatca ctgtttttag	1440
tctgtttcaa aacagtagat gttttatcta cattacgcag ttggaatacc aacatgacga	1500
atccctcctt cttaattaca aatttttagc atctaattta acttcaattc ctattataca	1560
aaattttaag ataatgcact atcaacacac tcttaagttt gcttctaaag cttcagggtt	1620
gagatgtgta taagagacag ctgcattaat gaatcgcca acgcgcgggg agaggcggtt	1680
tgcgatttgg gcgctcttcc gcttcctcgc tctactgactc gctgcgctcg gtcgttcggc	1740
tgcggcgagc ggtatcagct cactcaaagg cggtaatagc gttatccaca gaatcagggg	1800
ataacgcagg aaagaacatg tgagcaaaag gccagcaaaa ggccaggaac cgtaaaaagg	1860
ccgcgttgct ggcgtttttc cataggctcc gccccctga cgagcatcac aaaaatcgac	1920
gctcaagtca gaggtggcga aaccgcagag gactataaag ataccaggcg tttccccctg	1980
gaagctccct cgtgcgctct cctgttccga ccctgccgct taccggatac ctgtccgcct	2040
ttctcccttc ggggaagcgtg gcgctttctc atagctcacg ctgtaggtat ctgagttcgg	2100
tgtaggtcgt tcgctccaag ctgggctgtg tgcacgaacc cccggttcag cccgaccgct	2160

gcgcccttatc	cggtaaactat	cgtcttgagt	ccaacccggt	aagacacgac	ttatcgccac	2220
tggcagcagc	cactggtaac	aggattagca	gagcgaggta	tgtaggcggt	gctacagagt	2280
tcttgaagtg	gtggcctaac	tacggctaca	ctagaaggac	agtatttggt	atctgcgctc	2340
tgctgaagcc	agttaccttc	ggaaaaagag	ttggtagctc	ttgatccggc	aaacaaacca	2400
ccgctggtag	cggtggtttt	tttgtttgca	agcagcagat	tacgcgcaga	aaaaaaggat	2460
ctcaagaaga	tcctttgatc	ttttctacgg	ggtctgacgc	tcagtggaac	gaaaactcac	2520
gttaagggat	tttggatcatg	agattatcaa	aaaggatctt	cacctagatc	cttttaaatt	2580
aaaaatgaag	ttttaaatca	atctaaagta	tatatgagta	aacttggtct	gacagttacc	2640
aatgcttaat	cagtgaaggca	cctatctcag	cgatctgtct	atttcggtca	tccatagttg	2700
cctgactccc	cgctggttag	ataactacga	tacgggaggg	cttaccatct	ggccccagtg	2760
ctgcaatgat	accgcgagac	ccacgctcac	cggctccaga	tttatcagca	ataaaccagc	2820
cagccggaag	ggccgagcgc	agaagtgggtc	ctgcaacttt	atccgcctcc	atccagtcta	2880
ttaattgttg	ccgggaagct	agagtaagta	gttcgccagt	taatagtttg	cgcaacgttg	2940
ttgccattgc	tacaggcatc	gtggtgtcac	gctcgtcggt	tggtagggct	tcattcagct	3000
ccggttccca	acgatcaagg	cgagttacat	gatcccccat	gttgtgcaaa	aaagcggtta	3060
gctccttcgg	tcctccgatc	gttgtcagaa	gtaagttggc	cgcagtgtta	tcactcatgg	3120
ttatggcagc	actgcataat	tctcttactg	tcatgccatc	cgtaagatgc	ttttctgtga	3180
ctggtgagta	ctcaaccaag	tcattctgag	aatagtgtat	gcggcgaccg	agttgctctt	3240
gcccggcgctc	aatacgggat	aataccgcgc	cacatagcag	aactttaaaa	gtgctcatca	3300
ttgaaaaacg	ttcttcgggg	cgaaaactct	caaggatctt	accgctgttg	agatccagtt	3360
cgatgtaacc	cactcgtgca	cccaactgat	cttcagcatc	ttttactttc	accagcgttt	3420
ctgggtgagc	aaaaacagga	aggcaaaatg	ccgcaaaaaa	gggaataagg	gcgacacgga	3480
aatgttgaat	actcatactc	ttcctttttc	aatattattg	aagcatttat	cagggttatt	3540
gtctcatgag	cggatacata	tttgaatgta	tttagaaaaa	taaacaaata	ggggttccgc	3600
gcacatttcc	ccgaaaagtg	ccacctgacg	tctaagaaac	cattattatc	atgacattaa	3660
cctataaaaa	taggcgtatc	acgag				3685

<210> 13
 <211> 3245
 <212> DNA
 <213> artificial sequence

<220>
 <223> plasmid pMOD (Cm)

<400>	13	
tcgcgcgttt	cggtgatgac	ggtgaaaacc tctgacacat gcagctcccg gagacgggtca 60

cagcttgtct gtaagcggat gccgggagca gacaagcccg tcagggcgcg tcagcgggtg	120
ttggcgggtg tcggggctgg cttaactatg cggcatcaga gcagattgta ctgagagtgc	180
accatatgcg gtgtgaaata ccgcacagat gcgtaaggag aaaataccgc atcaggcgcc	240
attcgccatt caggctgcmc aactgttggg aagggcgatc ggtgcgggcc tcttcgctat	300
tacgccagct gtctcttata cacatctcaa ccatcatcga tgaattcgag ctcggtaccg	360
ttagtgcacat tagaaaaccg actgtaaaaa gtacagtcgg cattatctca tattataaaa	420
gccagtcatt aggcctatct gacaattcct gaatagagtt cataaacaat cctgcatgat	480
aaccatcaca aacagaatga tgtacctgta aagatagcgg taaatatatt gaattacctt	540
tattaatgaa ttttcctgct gtaataatgg gtagaaggta attactatta ttattgatat	600
ttaagttaaa ccagtaaat gaagtccatg gaataataga aagagaaaaa gcattttcag	660
gtataggtgt tttgggaaac aatttccccg aaccattata tttctctaca tcagaaagggt	720
ataaatcata aaactctttg aagtcattct ttacaggagt ccaaatacca gagaatgttt	780
tagatacacc atcaaaaatt gtataaagtg gctctaactt atcccaataa cctaactctc	840
cgtcgctatt gtaaccagtt ctaaaagctg tatttgagtt tatcaccctt gtcactaaga	900
aaataaatgc agggtaaaat ttatatcctt cttgttttat gtttcggtat aaaacactaa	960
tatcaatttc tgtggttata ctaaaagtcg tttgttggtt caaataatga ttaaatactt	1020
cttttctctt ccaattgtct aaatcaattt tattaaagtt catttgatat gcctcctaaa	1080
tttttatcta aagtgaattt aggaggctta cttgtctgct ttcttcatta gaatcaatcc	1140
ttttttaaaa gtcaatatta ctgtaacaag cttcagggtt gagatgtgta taagagacag	1200
ctgcattaat gaatcgcca acgcgcgggg agaggcgggt tgcgtattgg gcgctcttcc	1260
gcttcctcgc tctactgactc gctgcgctcg gtcgttcggc tgcggcgagc ggtatcagct	1320
cactcaaagg cggtaatagc gttatccaca gaatcagggg ataacgcagg aaagaacatg	1380
tgagcaaaag gccagcaaaa ggccaggaaac cgtaaaaagg ccgcgttgct ggcgtttttc	1440
cataggctcc gccccctga cgagcatcac aaaaatcgac gctcaagtca gaggtggcga	1500
aaccgcacag gactataaag ataccaggcg tttccccctg gaagctccct cgtgcgctct	1560
cctgttccga ccctgccgct taccggatac ctgtccgcct ttctcccttc gggagcgtg	1620
gcgctttctc atagctcacg ctgtaggtat ctcagttcgg tgtaggtcgt tcgctccaag	1680
ctgggctgtg tgcacgaacc ccccgttcag cccgaccgct gcgccttatc cggtaaactat	1740
cgtcttgagt ccaaccgggt aagacacgac ttatcgccac tggcagcagc cactggtaac	1800
aggattagca gagcgaggta tgtaggcgggt gctacagagt tcttgaagtg gtggcctaac	1860
tacggctaca ctagaaggac agtatttgggt atctgcgctc tgctgaagcc agttaccttc	1920
ggaaaaagag ttggtagctc ttgatccggc aaacaaacca ccgctggtag cgggtggtttt	1980

tttgtttgca agcagcagat tacgcgcaga aaaaaaggat ctcaagaaga tcctttgatc	2040
ttttctacgg ggtctgacgc tcagtggaac gaaaactcac gttaagggat tttggtcacg	2100
agattatcaa aaaggatctt cacctagatc cttttaaatt aaaaatgaag ttttaaataca	2160
atctaaagta tatatgagta aacttggtct gacagttacc aatgcttaat cagtgaggca	2220
cctatctcag cgatctgtct atttcgttca tccatagttg cctgactccc cgtcgtgtag	2280
ataactacga tacgggaggg cttaccatct ggccccagtg ctgcaatgat accgcgagac	2340
ccacgctcac cggctccaga tttatcagca ataaaccagc cagccggaag ggccgagcgc	2400
agaagtggtc ctgcaacttt atccgcctcc atccagtcta ttaattgttg ccgggaagct	2460
agagtaagta gttcgccagt taatagtttg cgcaacgttg ttgccattgc tacaggcatc	2520
gtggtgtcac gctcgtcggt tggtatggct tcattcagct ccggttccca acgatcaagg	2580
cgagttacat gatccccat gttgtgcaaa aaagcgggta gtccttcgg tcctccgatc	2640
gttgtcagaa gtaagttggc cgcagtggtta tcactcatgg ttatggcagc actgcataat	2700
tctcttactg tcatgccatc cgtaagatgc ttttctgtga ctggtgagta ctcaaccaag	2760
tcattctgag aatagtgtat gcggcgaccg agttgctctt gcccggcgtc aatacgggat	2820
aataccgcgc cacatagcag aactttaaaa gtgctcatca ttggaaaacg ttcttcgggg	2880
cgaaaactct caaggatctt accgctgttg agatccagtt cgatgtaacc cactcgtgca	2940
cccaactgat cttcagcatc ttttactttc accagcgttt ctgggtgagc aaaaacagga	3000
aggcaaaatg ccgcaaaaaa gggaataagg gcgacacgga aatgttgaat actcatactc	3060
ttcctttttc aatattattg aagcatttat cagggttatt gtctcatgag cggatacata	3120
tttgaatgta tttagaaaaa taaacaaata ggggttccgc gcacatttcc ccgaaaagtg	3180
ccacctgacg tctaagaaac cattattatc atgacattaa cctataaaaa taggcgtatc	3240
acgag	3245